

Claims

- [c1] What is claimed is:
1. A method of detecting disk defects in an optical disc for an optical disc drive including an optical pickup, the method comprising the steps of:
emitting light from the optical pickup onto the optical disc and obtaining reflected sub-beams;
generating a reflected light intensity signal based on the reflected sub-beams;
obtaining a low-frequency signal from the reflected light intensity signal;
holding the low-frequency signal when a difference between the reflected light intensity signal and the low-frequency signal is greater than a predetermined value; and
generating a defect signal when a difference between the reflected light intensity signal and the held low-frequency signal is greater than the predetermined value.
 - [c2] 2. The method of claim 1 wherein the low-frequency signal is held by a capacitor.
 - [c3] 3. The method of claim 1 wherein the reflected light intensity signal is generated by summing intensities of the reflected sub-beams.
 - [c4] 4. The method of claim 1 wherein the low-frequency signal is the result of averaging the reflected light intensity signal over a time period defined by a predefined time constant.
 - [c5] 5. The method of claim 1 wherein the low-frequency signal is obtained by passing the reflected light intensity signal through a low-pass filter.
 - [c6] 6. The method of claim 1 wherein at least one comparator is used to compare the difference between the reflected light intensity signal and the held low-frequency signal with the predetermined value.
 - [c7] 7. The method of claim 1 wherein when a difference between the reflected light intensity signal and the held low-frequency signal is within the predetermined value, the held low-frequency signal is no longer held.

[c8] 8. A method of detecting disk defects in an optical disc for an optical disc drive including an optical pickup, the method comprising the steps of:
emitting light from the optical pickup onto the optical disc and obtaining reflected sub-beams;
generating a reflected light intensity signal based on the reflected sub-beams;
obtaining a low-frequency signal after the reflected light intensity signal is processed through a low-pass filter; and
storing the low-frequency signal if a defect signal indicating existence of the disk defects appears based on a difference between the reflected light intensity signal and the low-frequency signal.

[c9] 9. The method of claim 8 wherein the low-frequency signal is stored by a capacitor.

[c10] 10. The method of claim 8 wherein the reflected light intensity signal is generated by summing intensities of the reflected sub-beams.

[c11] 11. The method of claim 8 wherein the low-frequency signal is the result of averaging the reflected light intensity signal over a time period defined by a predefined time constant.

[c12] 12. The method of claim 8 wherein the low-frequency signal is obtained by passing the reflected light intensity signal through a low-pass filter.

[c13] 13. The method of claim 8 wherein at least one comparator is used to compare the difference between the reflected light intensity signal and the stored low-frequency signal with the predetermined value.

[c14] 14. The method of claim 8 wherein when a difference between the reflected light intensity signal and the stored low-frequency signal is within the predetermined value, the stored low-frequency signal is no longer held.

[c15] 15. An optical disc drive for use in a data reproduction system utilizing a defect management system, the optical disc drive comprising:
an optical pickup capable of emitting light onto an optical disc and obtaining reflected sub-beams;

a low-pass filter for obtaining a low-frequency signal from a reflected light intensity signal, the reflected light intensity signal being based on the reflected sub-beams; and

a holding circuit for holding the low-frequency signal when a difference between the reflected light intensity signal and the low-frequency signal is greater than a predetermined value.

[c16] 16. The optical disc drive of claim 15 further comprises a switch for electrically disconnecting the low-pass filter from the reflected light intensity signal when a difference between the reflected light intensity signal and the low-frequency signal is greater than the predetermined value.

[c17] 17. The optical disc drive of claim 15 further comprising a subtractor for generating the difference between the reflected light intensity signal and the low-frequency signal;

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